

# CNT 4714: Enterprise Computing Spring 2011

## Installing and Configuring Apache and PHP

Instructor :      Dr. Mark Llewellyn  
                         markl@cs.ucf.edu  
                         HEC 236, 407-823-2790  
                         <http://www.cs.ucf.edu/courses/cnt4714/spr2011>

Department of Electrical Engineering and Computer Science  
University of Central Florida



# Introduction to PHP

- PHP is officially known as PHP: Hypertext Preprocessor and is very rapidly becoming the most popular server-side scripting language for creating dynamic web pages.
- PHP was created in 1994 by Rasmus Lerdorf (who currently works for Linuxcare, Inc. as a senior open-source researcher) to track users at his Web site. Lerdorf originally called it Personal Home Page Tools in a package he released in 1995. It eventually became an Apache Software Foundation project.
- PHP2 featured built-in database support and form handling. In 1997, PHP3 was released and featured a new parser which substantially increased performance and led to an explosion in PHP use.



# Introduction to PHP (cont.)

- PHP4 featured the Zend Engine and was considerably faster and more powerful than its predecessors and further enhanced the popularity of PHP.
- The current release is PHP 5.3.6 and features the Zend Engine 2, which provides further increases in speed and functionality. You can download the latest version of PHP at [www.php.net](http://www.php.net). For more details on the Zend Engine 2 see [www.zend.com](http://www.zend.com).
- Today more than 20 million domains utilize PHP technology.
- All of the examples we'll be looking at use the latest stable version of PHP which is 5.3.6 and was released March 17, 2011.



# Introduction to PHP (cont.)

- The power of the Web resides not only in serving content to users, but also in responding to requests from users and generating Web pages with dynamic content.
- Interactivity between the user and the server has become a crucial part of Web functionality. While other languages can also perform these functions, PHP was written specifically for interacting with the Web.
- PHP code is embedded directly into XHTML documents. This allows the document author to write XHTML in a clear, concise manner, without having to use multiple `print` statements, as is necessary with other CGI-based languages.



# Introduction to PHP (cont.)

- PHP script file names usually end with `.php`, although a server can be configured to handle other file extensions.
- To run a PHP script, PHP must first be installed on your system. Download PHP 5.3.6 from [www.php.net](http://www.php.net). (Most recent version is 5.3.6.)
- Although PHP can be used from the command line, a Web server is required to take full advantage of the scripting language. I would suggest the Apache server available from [www.apache.org](http://www.apache.org). (Note: this is not the Tomcat server you've already used.) Current version is 2.2.17 which is a new major version change from the previous 2.0.xx versions (mostly in the areas of security) and was released on October 19, 2010.
- Although there are several different packages that bundle PHP with MySQL and various HTTP servers, as IT majors you need to experience the set-up and integration of this type of software, so I will show you how to setup the Apache HTTP server and integrate both PHP and MySQL into it.



# Installing Apache HTTP Server

- The current version of the Apache HTTP server is 2.2.17 and it is available for download from [www.apache.org](http://www.apache.org).
- Go to the apache homepage at the link shown above and scroll way down the page to the listing of the apache projects. The HTTP Server is the first one on the list.
- Click on this link and you will be taken to the HTTP Server project main page. (See page 7.)
- Click the Download from a mirror link on the left hand side of the page. This will take you to the main download page. (See page 8.)
- Select the proper format for your platform and download it to your machine. Go to page 9 to begin the Apache install procedure.



# Installing Apache HTTP Server

Welcome! - The Apache HTTP Server Project - Windows Internet Explorer

http://httpd.apache.org/

File Edit View Favorites Tools Help

Google Search Share Sign In Convert Select

Welcome! - The Apache HTTP Server Project

# Apache HTTP SERVER PROJECT

## The Number One HTTP Server On The Internet

### Essentials

- [About](#)
- [License](#)
- [FAQ](#)
- [Security Reports](#)

The Apache HTTP Server Project is an effort to develop and maintain an open-source HTTP server for modern operating systems including UNIX and Windows NT. The goal of this project is to provide a secure, efficient and extensible server that provides HTTP services in sync with the current HTTP standards.

Apache httpd has been the most popular web server on the Internet since April 1996, and celebrated its 15th birthday as a project this February.

The Apache HTTP Server ("httpd") is a project of [The Apache Software Foundation](#).

### Download!

- [from a mirror](#)

### Documentation

- [Version 2.3 \(Beta\)](#)

## Apache HTTP Server 2.2.17 Released 2010-10-19

The Apache HTTP Server Project is proud to [announce](#) the release of version 2.2.17 of the Apache HTTP Server ("httpd"). This version is principally a security and bugfix release.

Internet | Protected Mode: Off 100%



# Installing Apache HTTP Server

Download - The Apache HTTP Server Project - Windows Internet Explorer

http://httpd.apache.org/download.cgi

## Apache HTTP SERVER PROJECT

### Downloading the Apache HTTP Server

Use the links below to download the Apache HTTP Server from one of our mirrors. You **must** verify the integrity of the downloaded files using signatures downloaded from our main distribution directory.

Only current recommended releases are available on the mirrors. Older releases, including the 1.3 family of releases, are available on our archive mirrors.

Current Releases:

- [2.3.11-beta](#) (released 2011-03-07)
- [2.2.17](#) (released 2010-10-19)
- [2.0.64](#) (released 2010-10-19)

If you are downloading the Win32 distribution, please read these [important notes](#).

Essentials

- [About](#)
- [License](#)
- [FAQ](#)
- [Security Reports](#)

Download!

- [from a mirror](#)

Documentation

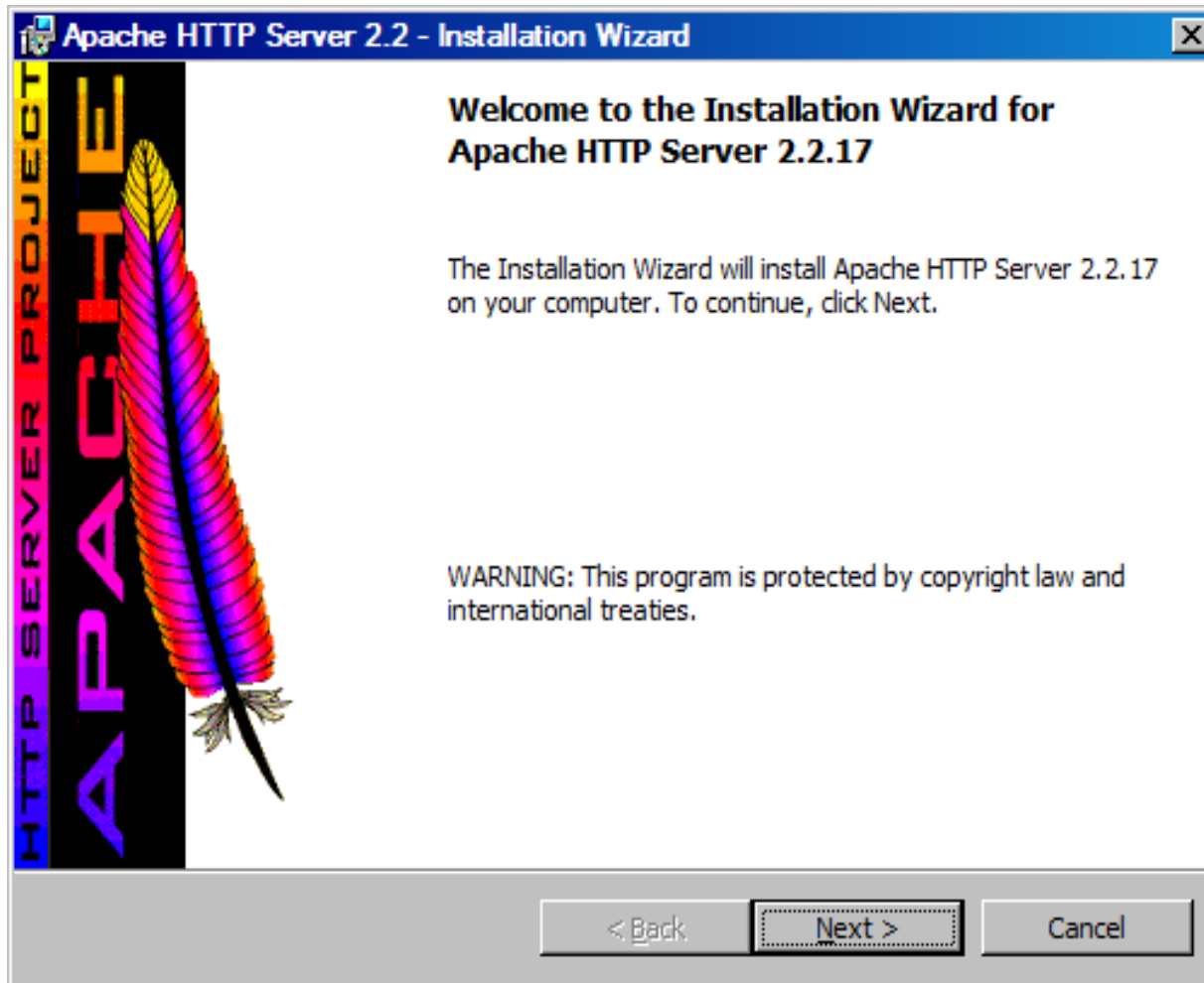
- [Version 2.3](#) (Beta)

Select 2.2.17

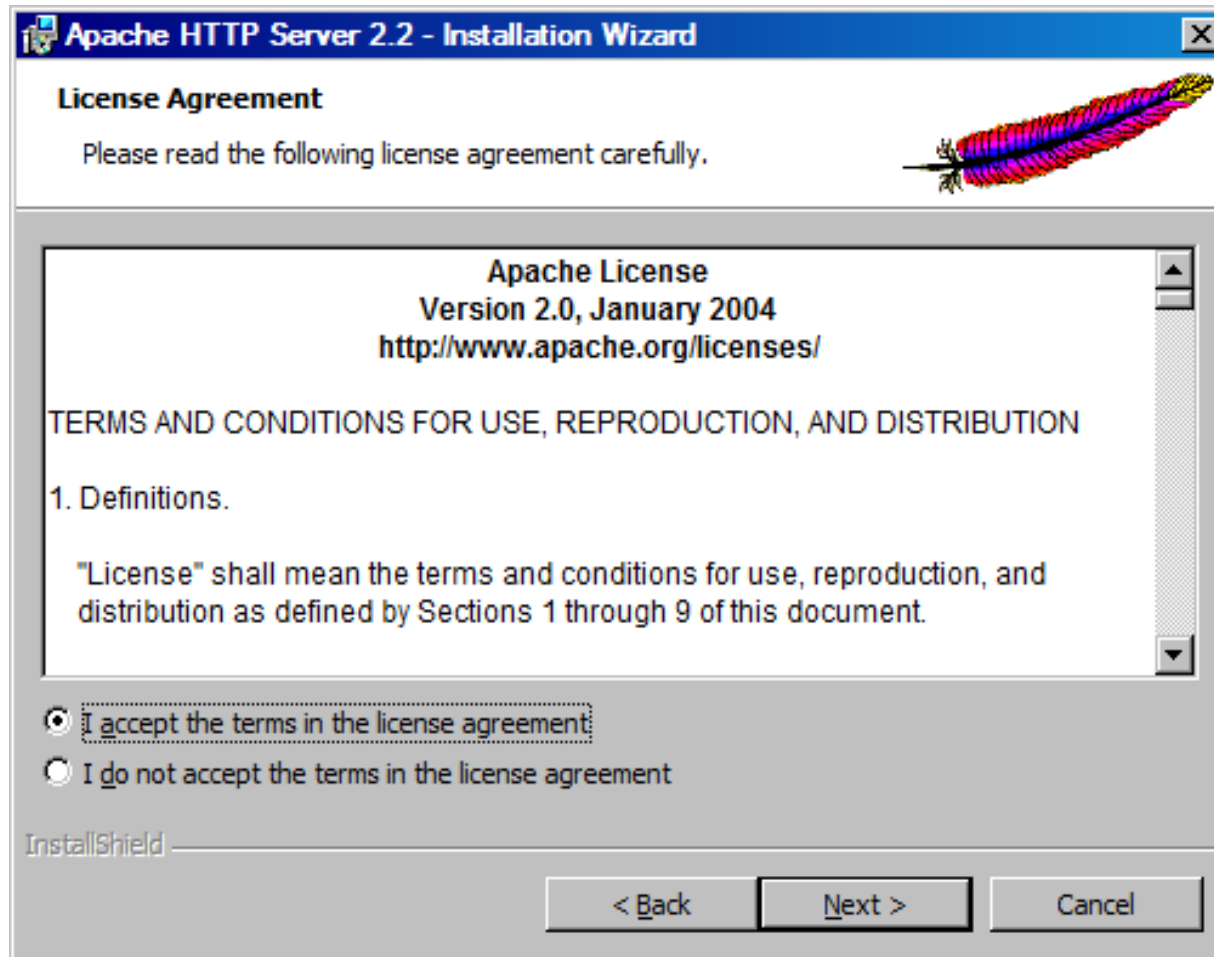




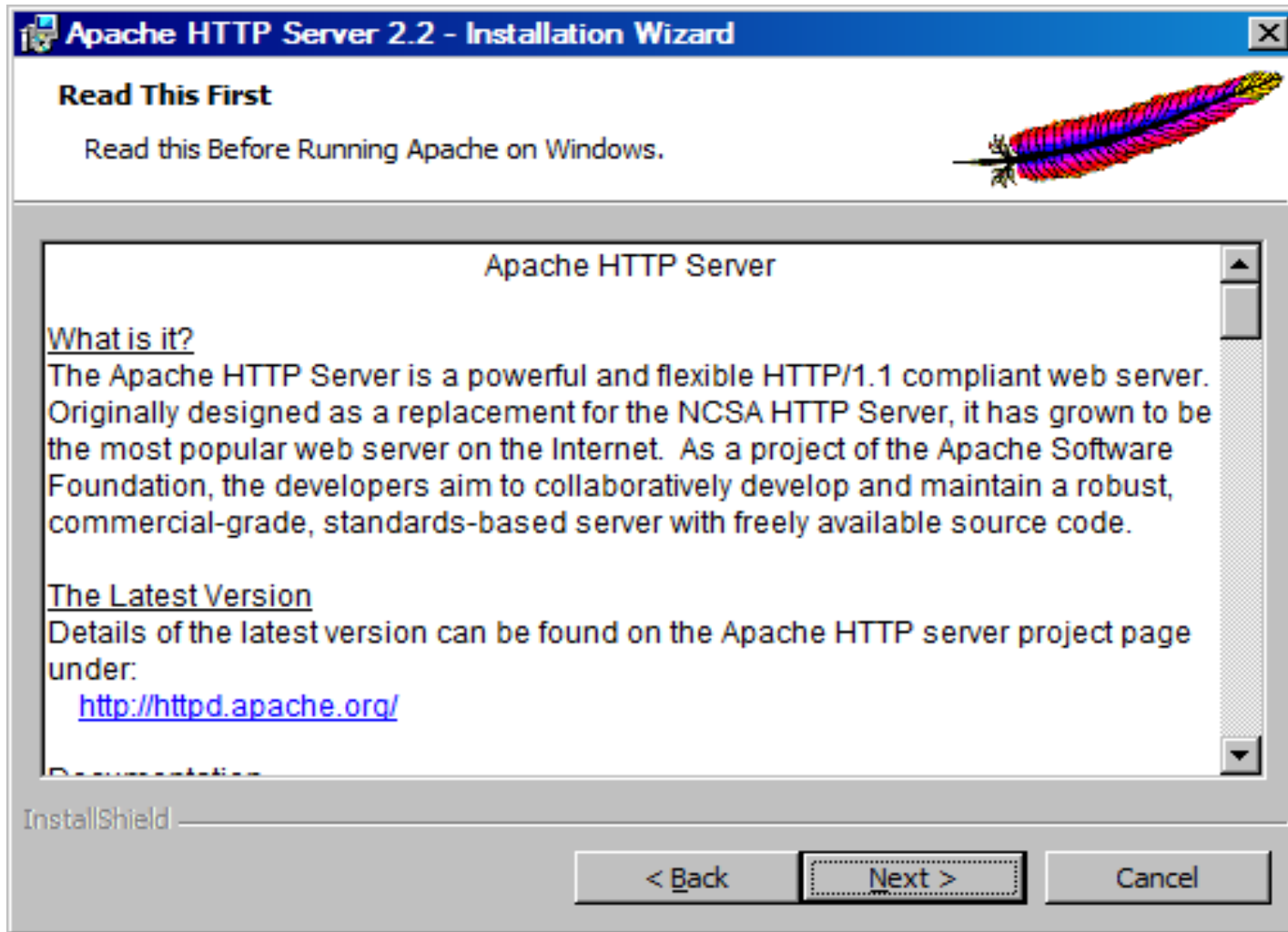
# Installing And Configuring Apache (cont.)



# Installing And Configuring Apache (cont.)



# Installing And Configuring Apache (cont.)



# Installing And Configuring Apache (cont.)

**Apache HTTP Server 2.2 - Installation Wizard**

**Server Information**

Please enter your server's information.

Network Domain (e.g. somenet.com)  
eecs.ucf.edu

Server Name (e.g. www.somenet.com):  
WIN-KBPUH7EBK5H.eecs.ucf.edu

Administrator's Email Address (e.g. webmaster@somenet.com):  
admin@eecs.ucf.edu

Install Apache HTTP Server 2.2 programs and shortcuts for:

for All Users, on Port 80, as a Service -- Recommended.

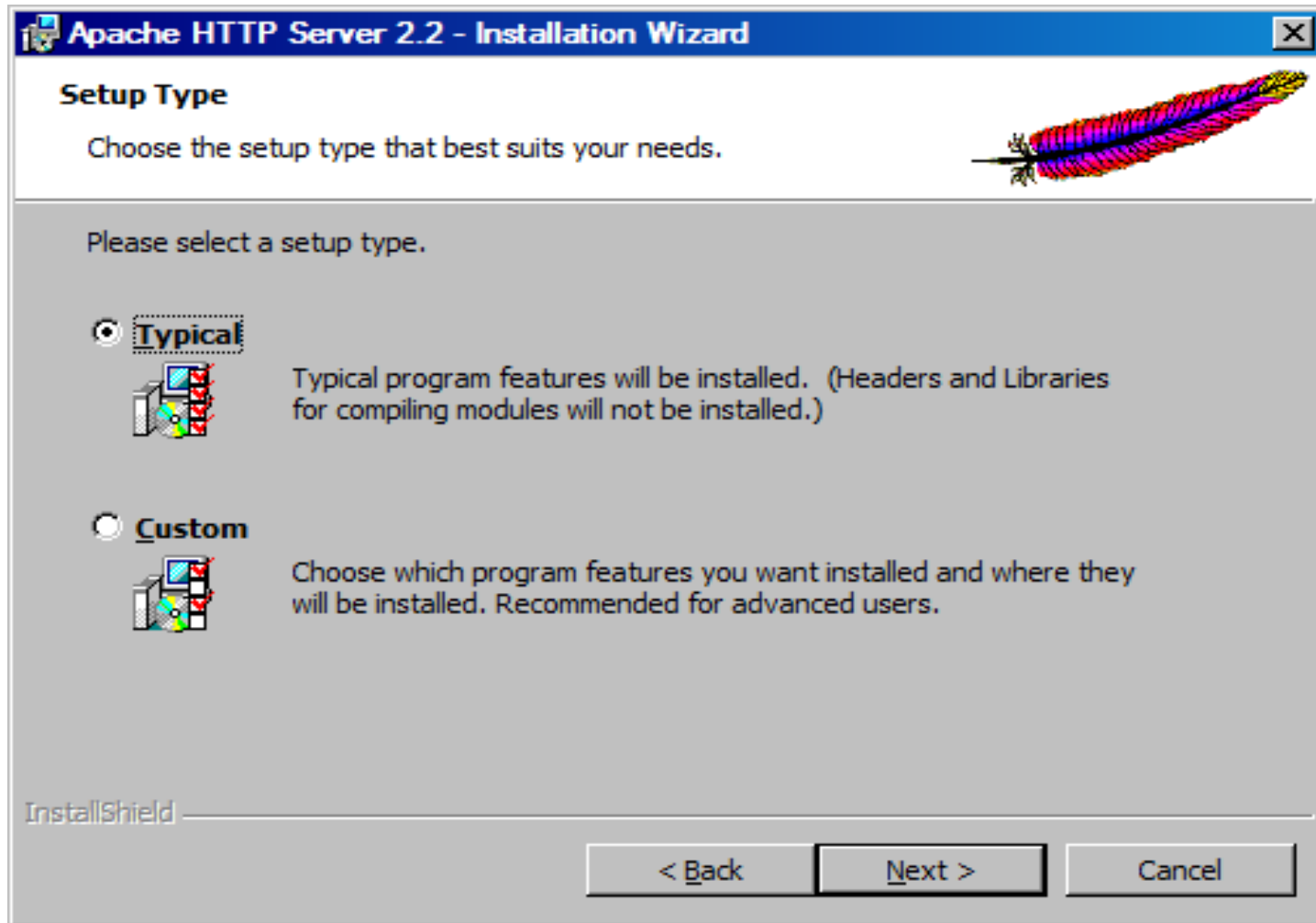
only for the Current User, on Port 8080, when started Manually.

InstallShield

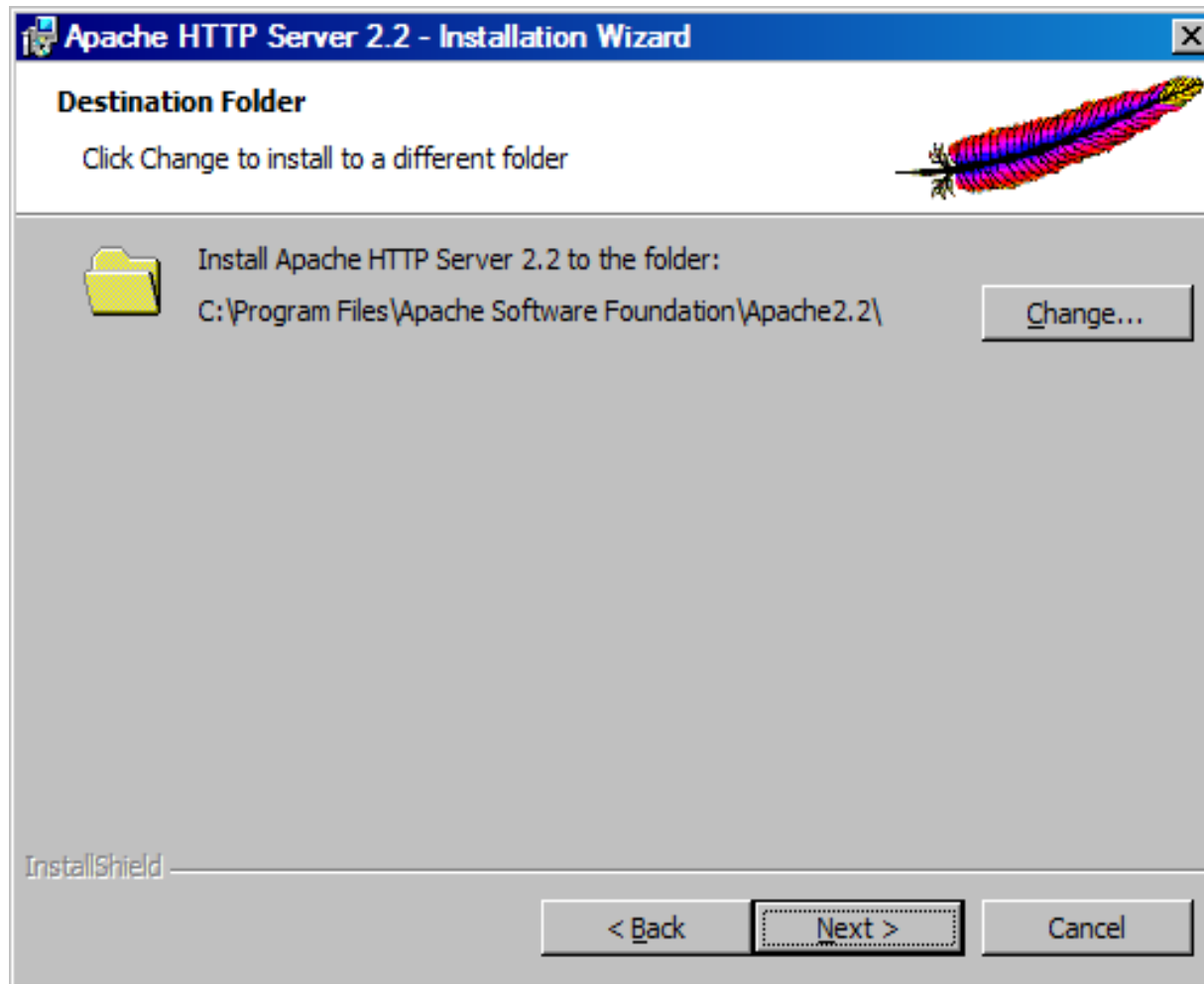
< Back   Next >   Cancel



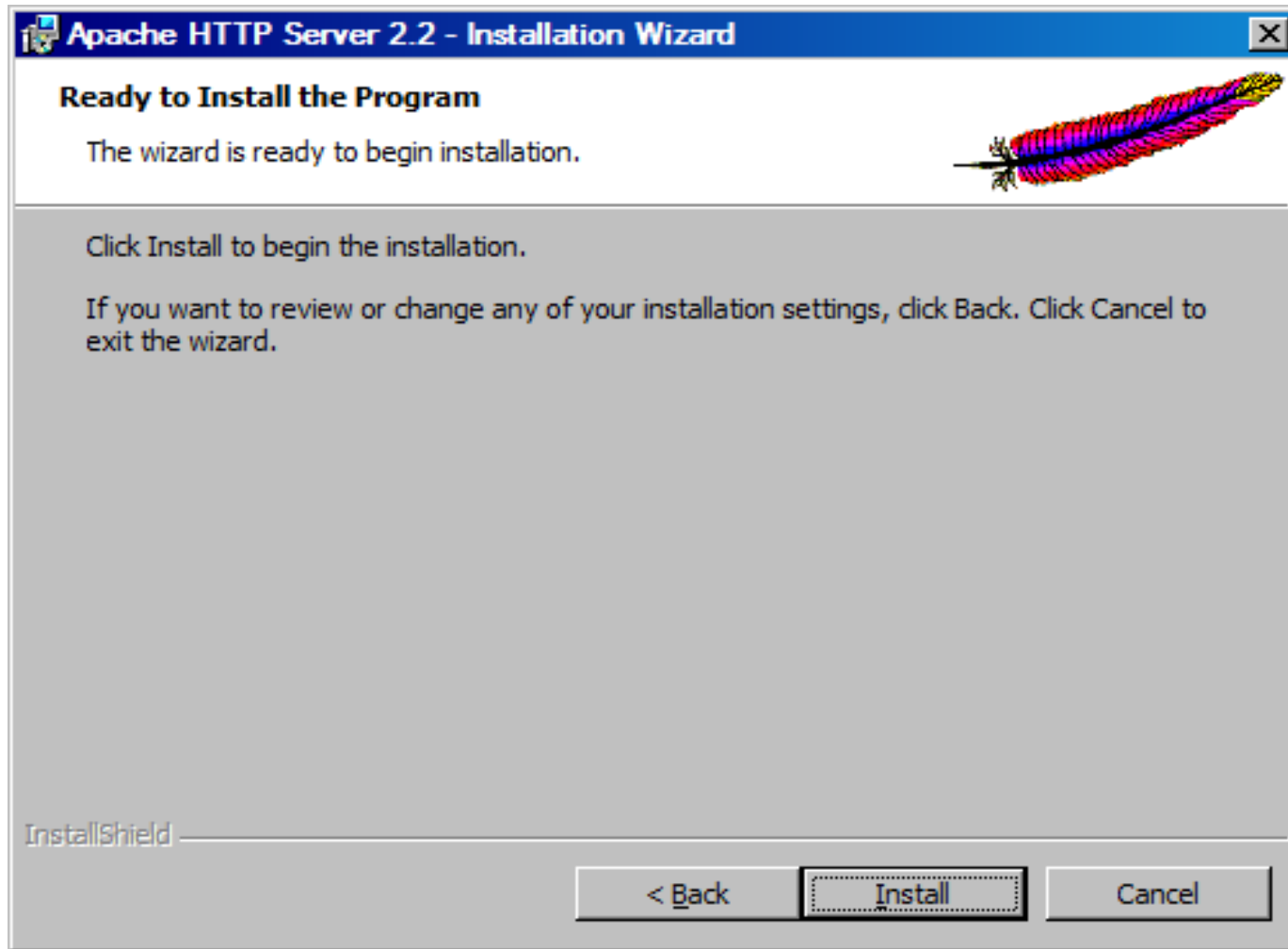
# Installing And Configuring Apache (cont.)



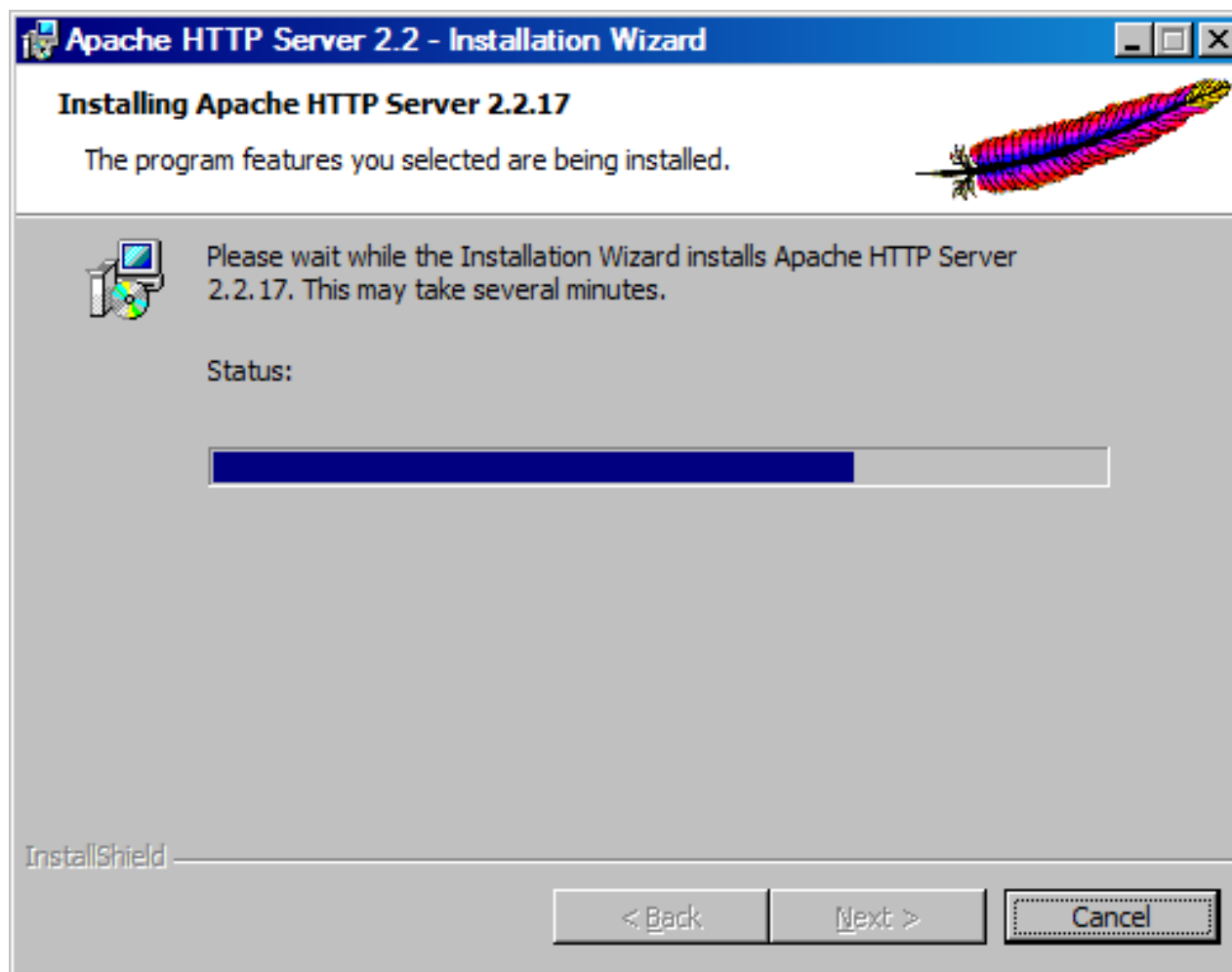
# Installing And Configuring Apache (cont.)



# Installing And Configuring Apache (cont.)

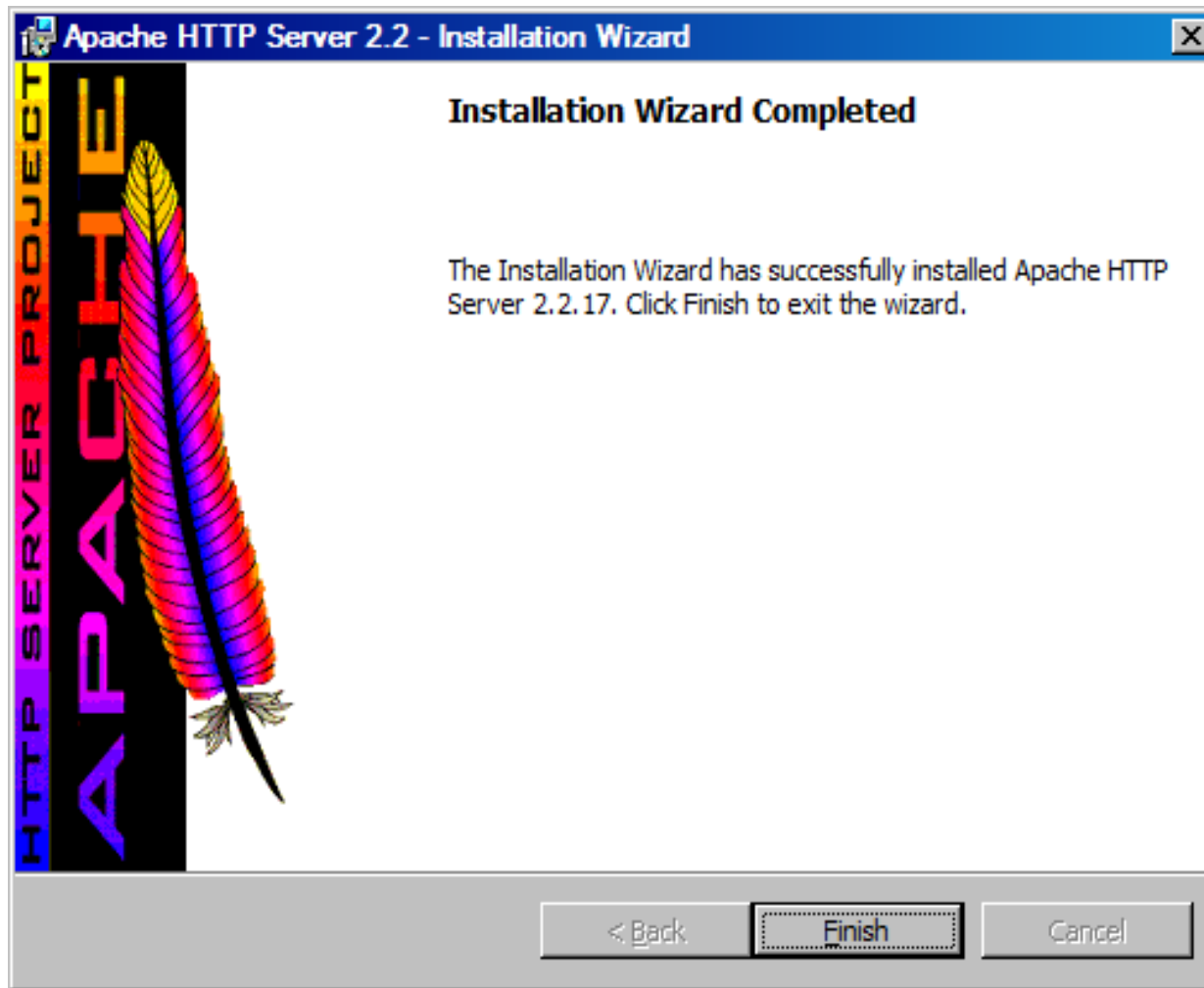


# Installing And Configuring Apache (cont.)





# Installing And Configuring Apache (cont.)



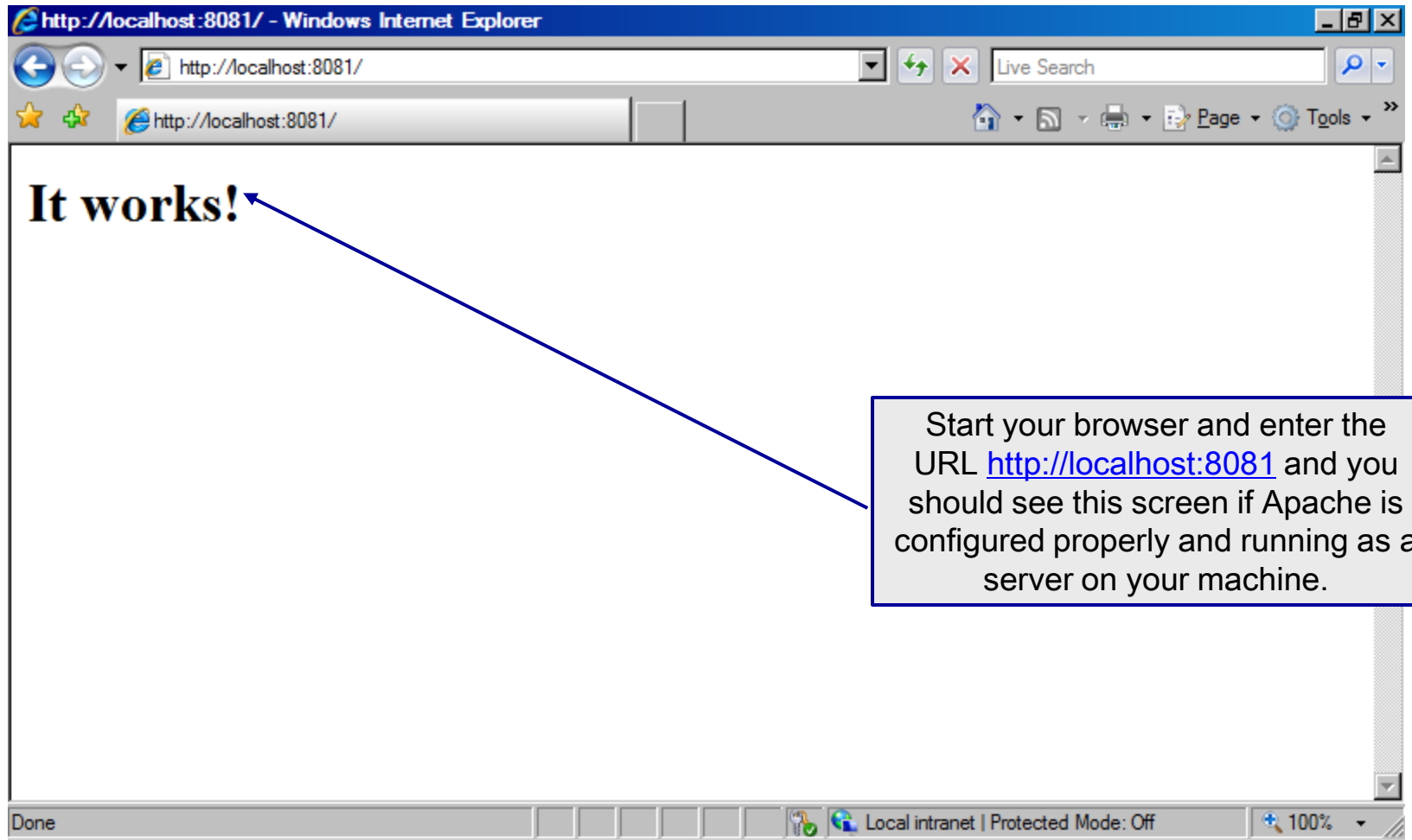
# Installing And Configuring Apache (cont.)

```
# Configuration and logfile names: If the filenames you specify for many
# of the server's control files begin with "/" (or "drive:/" for win32), the
# server will use that explicit path.  If the filenames do *not* begin
# with "/", the value of ServerRoot is prepended -- so "logs/foo.log"
# with ServerRoot set to "C:/Program Files/Apache Software Foundation/Apache2.2" \
# server as "C:/Program Files/Apache Software Foundation/Apache2.2/logs/foo.log".
#
# NOTE: Where filenames are specified, you must use forward slashes
# instead of backslashes (e.g., "c:/apache" instead of "c:\apache").
# If a drive letter is omitted, the drive on which httpd.exe is located
# will be used by default.  It is recommended that you always supply
# an explicit drive letter in absolute paths to avoid confusion.
#
# ServerRoot: The top of the directory tree under which the server's
# configuration, error, and log files are kept.
#
# Do not add a slash at the end of the directory path.  If you point
# ServerRoot at a non-local disk, be sure to point the u
# at a local disk.  If you wish to share the same Server
# httpd daemons, you will need to change at least LockF
#
ServerRoot "C:/Program Files/Apache Software Foundation,
#
# Listen: Allows you to bind Apache to specific IP addresses and/or
# ports, instead of the default.  See also the <VirtualHost>
# directive.
#
# Change this to Listen on specific IP addresses as shown below to
# prevent Apache from glomming onto all bound IP addresses.
#
#Listen 12.34.56.78:80
Listen 8081
#
# Dynamic Shared Object (DSO) Support
#
# To be able to use the functionality of a module which was built as a DSO you
# have to place corresponding 'LoadModule' lines at this location so the
```

Edit the http.conf file so that we will override the default port and set it to port 8081.



# Installing And Configuring Apache (cont.)



# Installing and Configuring PHP

- The current version of PHP (PHP 5.3.3) can be downloaded from [www.php.net](http://www.php.net). (See page 21.)
- Click on the downloads link at the top of the PHP home page and select the proper format for your machine. (See page 22.)
- Then download PHP to your machine and install it using the instructions beginning on page 23.



PHP: Hypertext Preprocessor - Windows Internet Explorer

http://www.php.net/

File Edit View Favorites Tools Help

Google Search Share Sign In Convert Select

Favorites Suggested Sites Free Hotmail Web Slice Gallery KeepVid- Download and s...

PHP: Hypertext Preprocessor

php

downloads | documentation | faq | getting help | mailing lists | licenses | wiki | reporting bugs | php.net sites | links | conferences | my php.net

search for \_\_\_\_\_ in the function list

### What is PHP?

PHP is a widely-used general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. If you are new to PHP and want to get some idea of how it works, try the [introductory tutorial](#). After that, check out the online [manual](#), and the example archive sites and some of the other resources available in the [links section](#).

Upcoming conferences: [Italian phpDay 2011](#) [PHP Community Conference](#)

### [php.net security notice](#)

[19-Mar-2011] The wiki.php.net box was compromised and the attackers were able to collect wiki account credentials. No other machines in the php.net infrastructure appear to have been affected. Our biggest concern is, of course, the integrity of our source code. We did an extensive code audit and looked at every commit since 5.3.5 to make sure that no stolen accounts were used to inject anything malicious. Nothing was found. The compromised machine has been wiped and we are forcing a password change for all svn accounts.

### Stable Releases

[Current PHP 5.3 Stable: 5.3.6](#)  
[Current PHP 5.2 Stable: 5.2.17](#)

### Upcoming Events [\[add\]](#)

April

### Conferences

04. [ZEND: Quick Start for PHP](#)  
04. [4Developers 2011](#)  
08. [I Hack'n Rio](#)

Internet | Protected Mode: Off 100%



PHP: Downloads - Windows Internet Explorer

http://www.php.net/downloads.php

File Edit View Favorites Tools Help

Google Search Share Check AutoFill Sign In

PHP: Downloads

php

downloads | documentation | faq | getting help | mailing lists | licenses | wiki | reporting bugs | php.net sites | links | conferences | my.php.net

search for \_\_\_\_\_ in the function list

### Binaries for other systems

We do not distribute UNIX/Linux binaries. Most Linux distributions come with PHP these days, so if you do not want to compile your own, go to your distribution's download site. Binaries available on external servers:

- AS/400
- Mac OS X
- Novell NetWare
- OS/2
- RISC OS
- SGI IRIX 6.5.x
- Solaris (SPARC, INTEL)
- Solaris OpenCSW packages
- Redhat/CentOS Binaries

### PHP 5.3.3

#### Complete Source Code

- PHP 5.3.3 (tar.bz2) [10,412Kb] - 22 July 2010  
md5: 21ceeb232813c10283a5ca1b4c87b48
- PHP 5.3.3 (tar.gz) [13,595Kb] - 22 July 2010  
md5: 5adf1a537895c2ec933fddd48e78d8a2

#### Windows Binaries

- For the Windows binaries and installer, see <http://windows.php.net/download/>.

---

### PHP 5.2.14

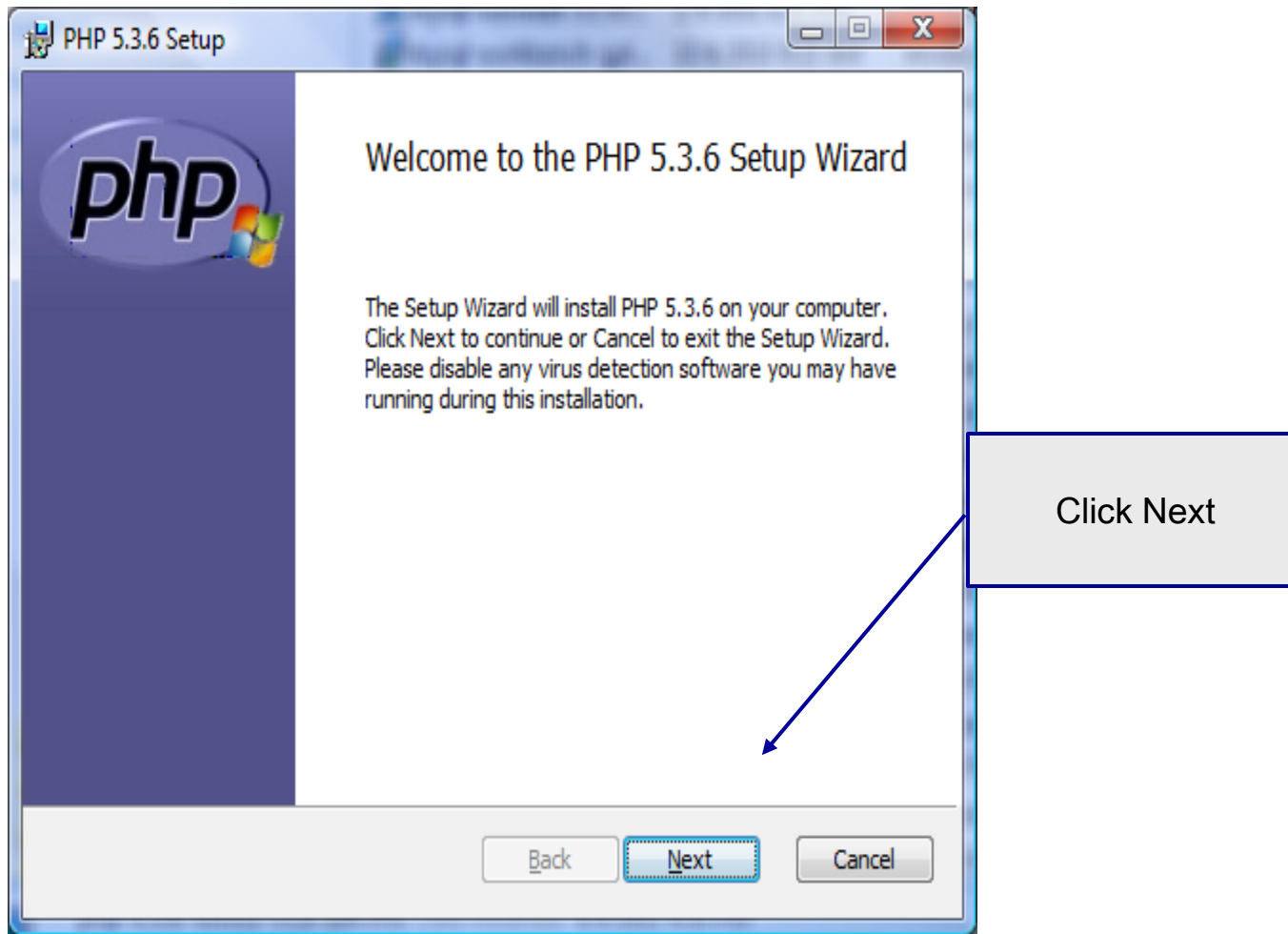
#### Complete Source Code

- PHP 5.2.14 (tar.bz2) [8,844Kb] - 22 July 2010  
md5: bdfc0a62fe437020cc04078269d1414

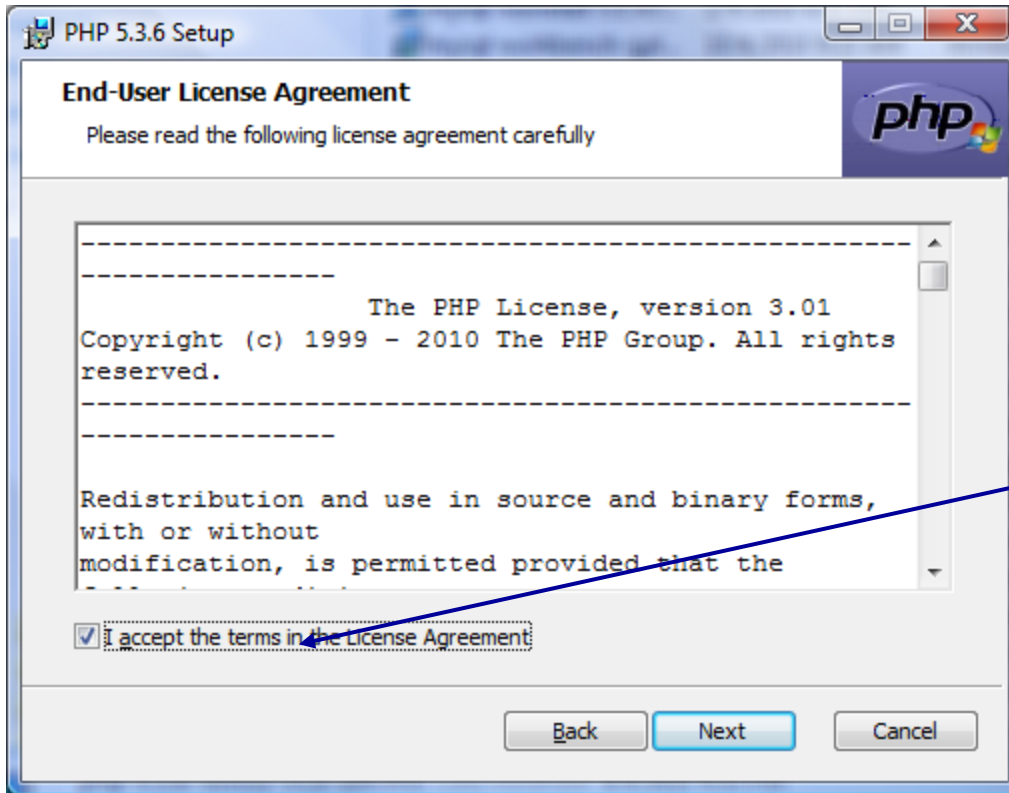
Done Internet | Protected Mode: Off 100%



# Installing And Configuring PHP (cont.)



# Installing And Configuring Apache (cont.)

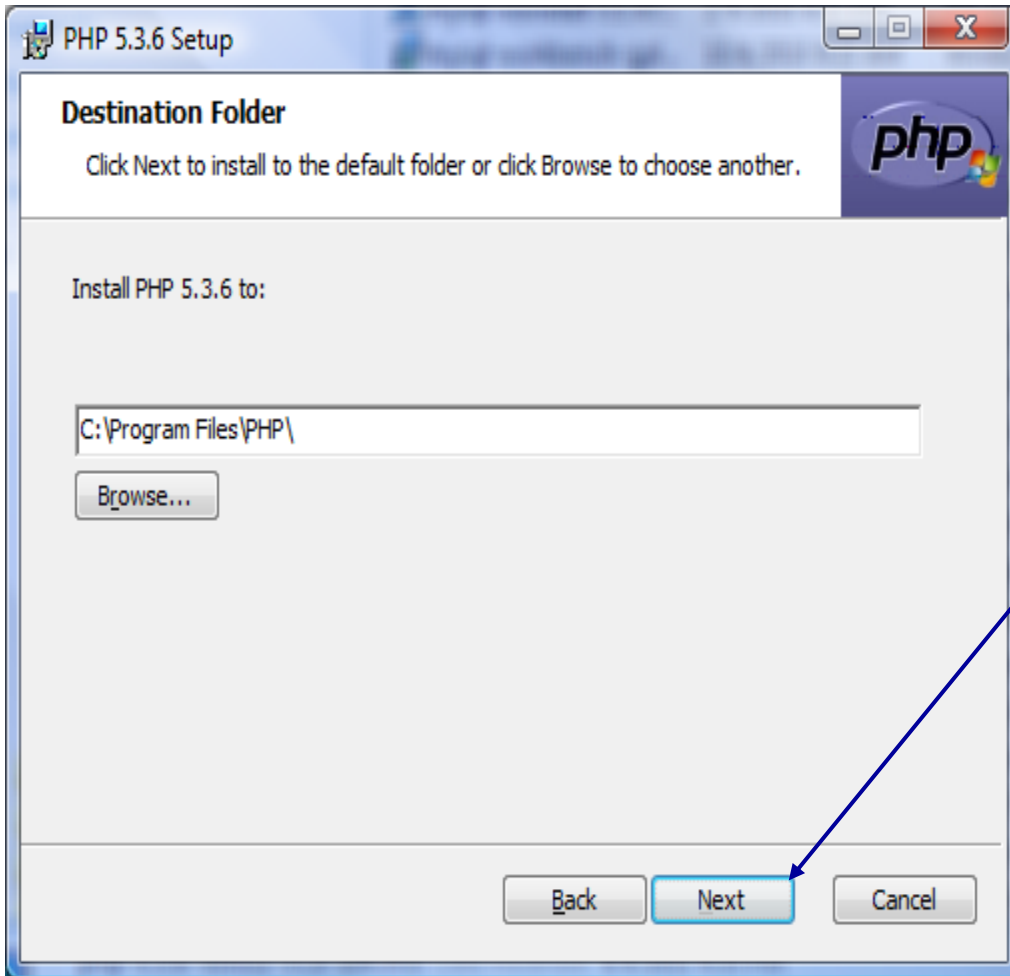


Check accept terms box and click Next.





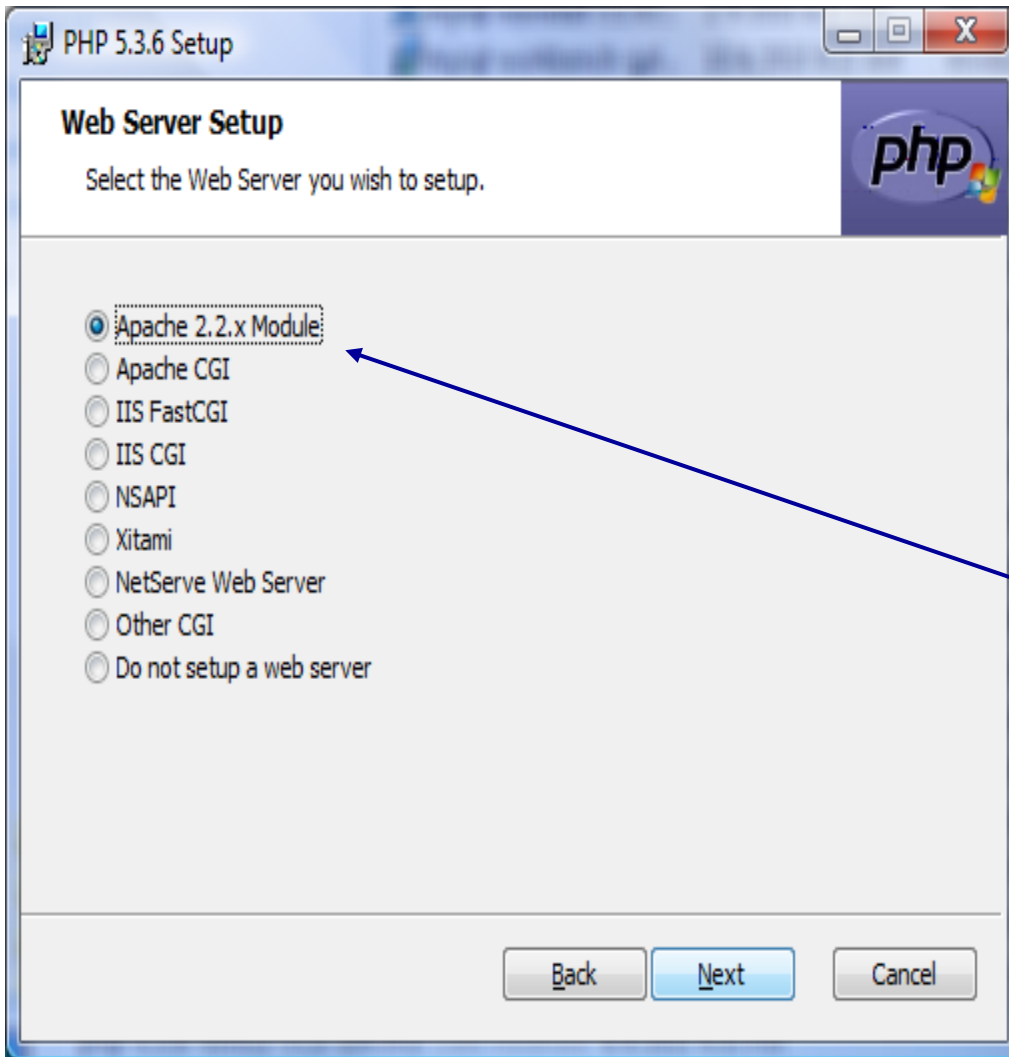
# Installing And Configuring Apache (cont.)



Set file path and click Next



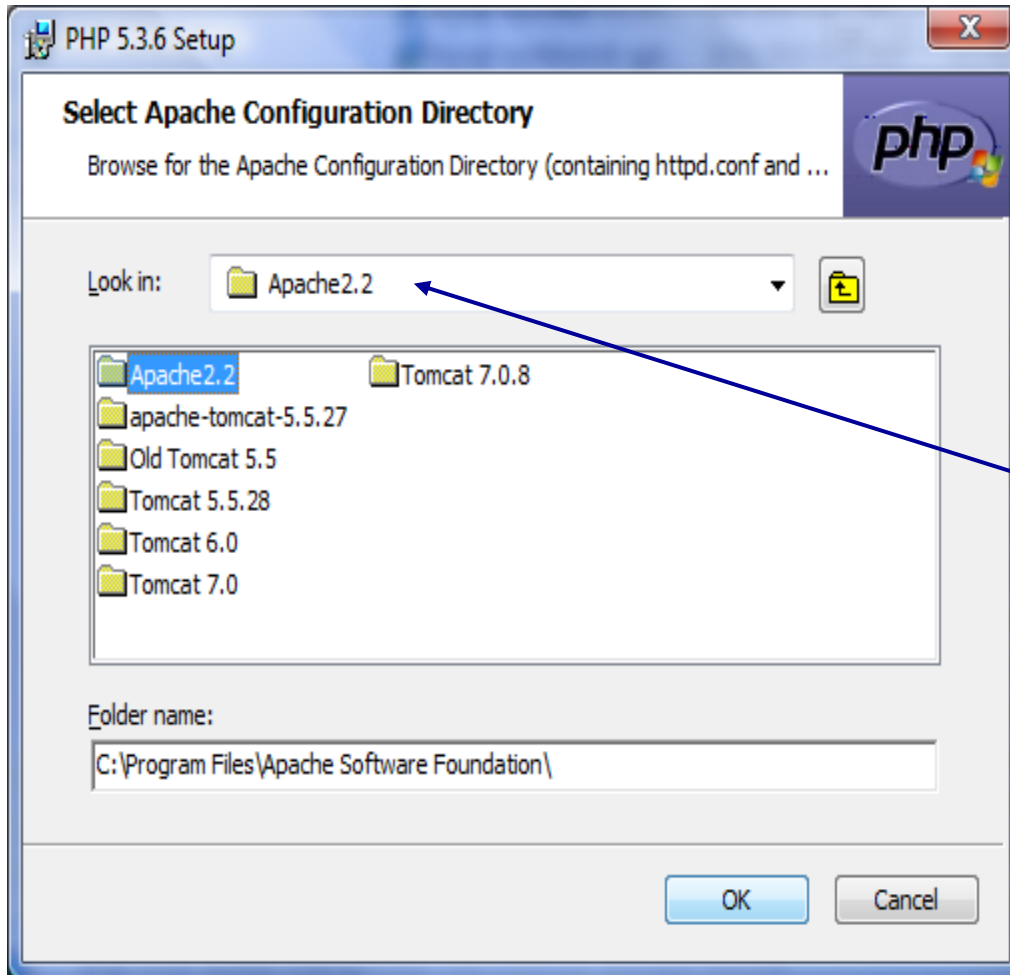
# Installing And Configuring Apache (cont.)



We'll be running PHP as a module within the Apache 2.2.x server so check this box. Then click Next.



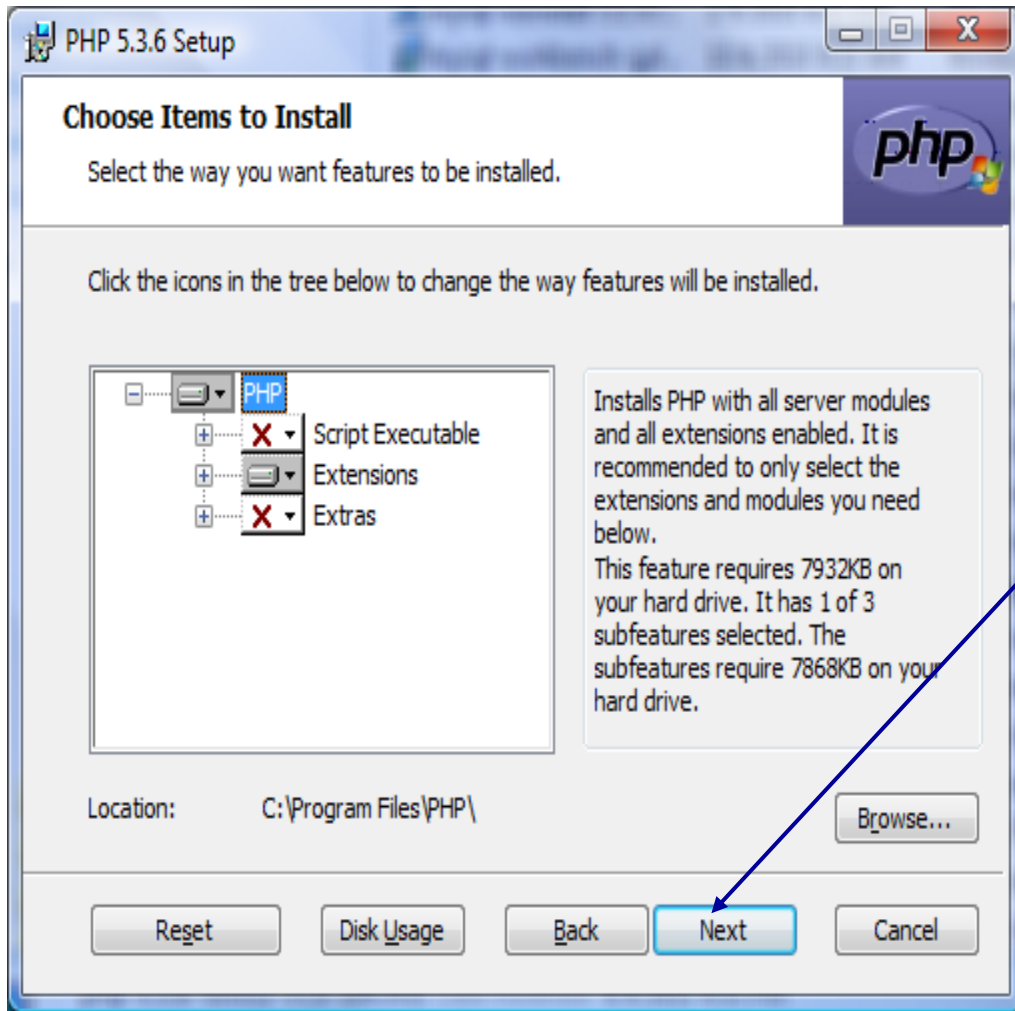
# Installing And Configuring Apache (cont.)



To set the Apache Configuration directory browse to the location where you setup the Apache HTTP server. Then click OK. Then Next.



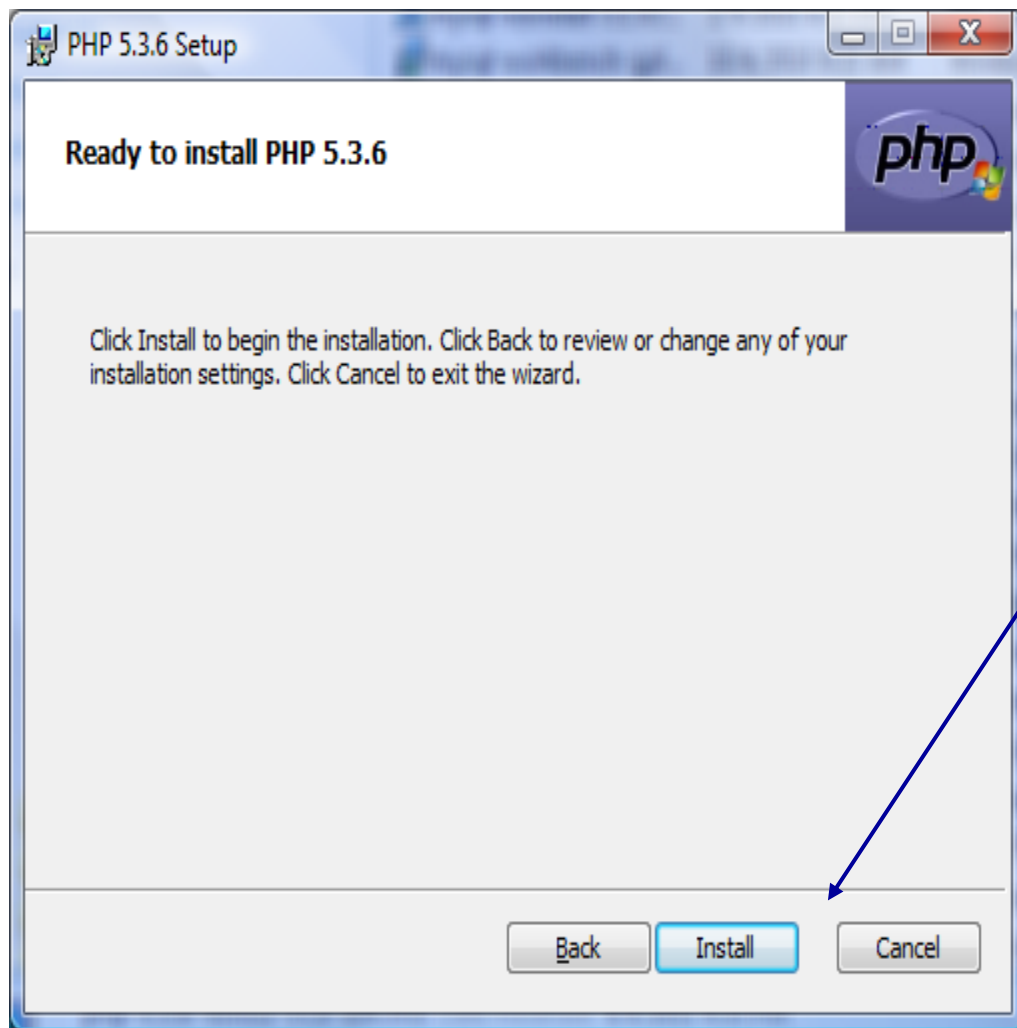
# Installing And Configuring Apache (cont.)



Do not allow all extensions to be loaded automatically – this will lead to very erratic behavior of your server and PHP as many are mutually exclusive and/or conflict with each other. Hand tuning the configuration files and extension libraries is required. (See the box on the right hand side of this screen.)



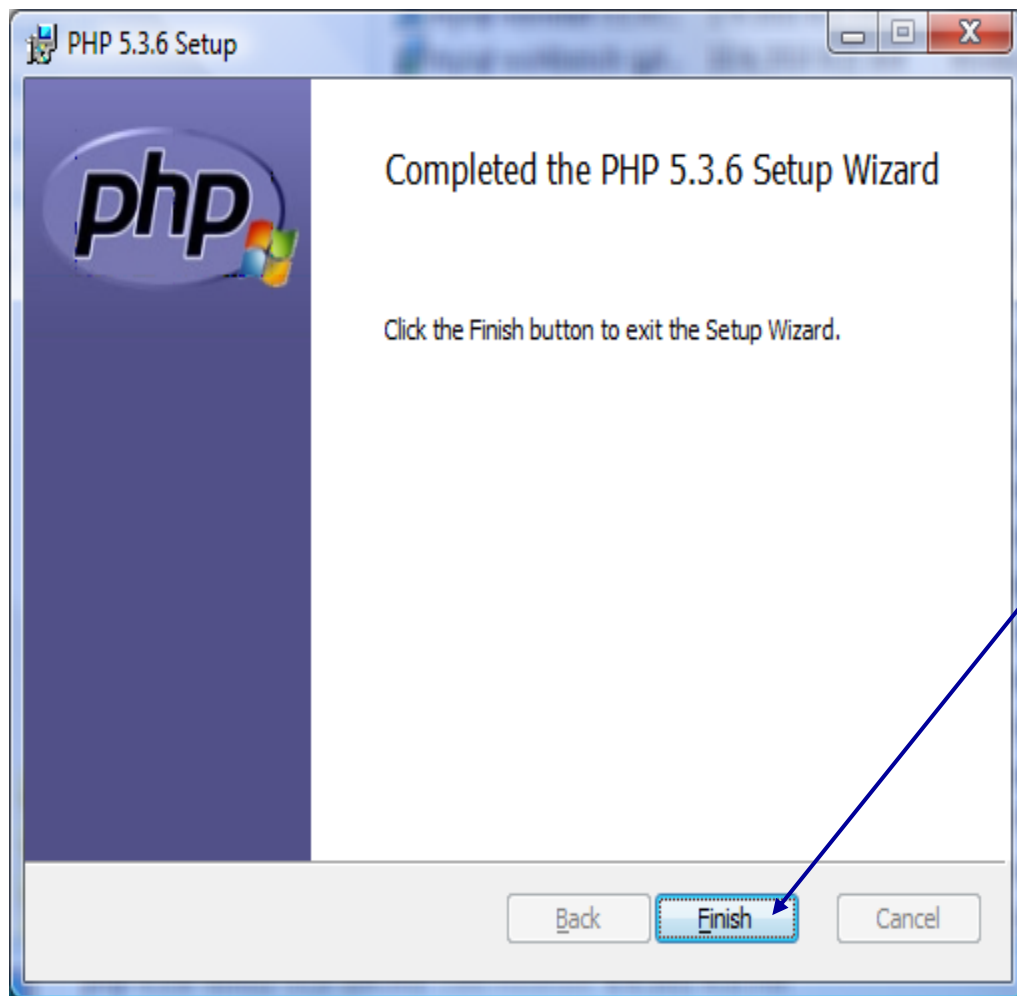
# Installing And Configuring Apache (cont.)



Click Install



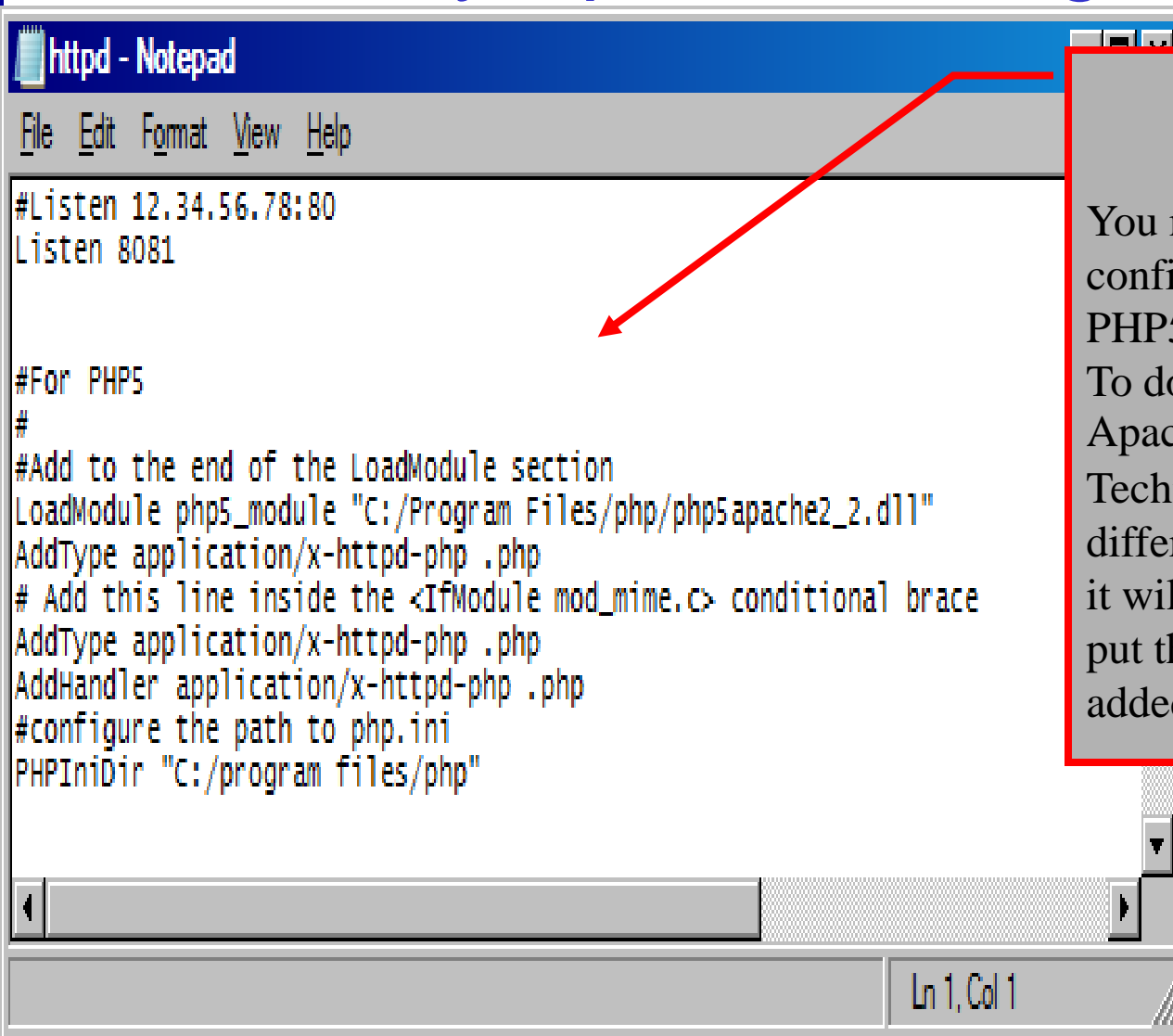
# Installing And Configuring Apache (cont.)



Click Finish



# Modify Apache Configuration File



```
httpd - Notepad
File Edit Format View Help
#Listen 12.34.56.78:80
Listen 8081

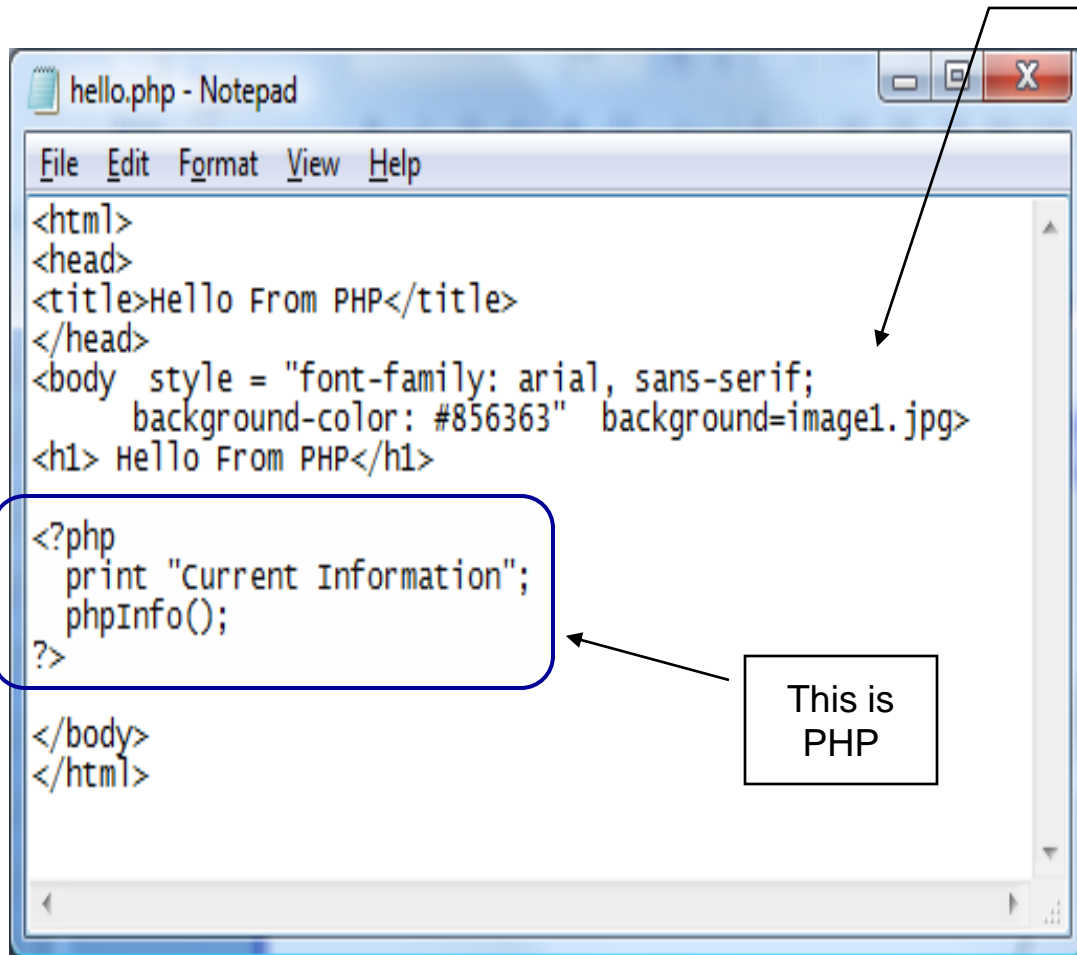
#For PHP5
#
#Add to the end of the LoadModule section
LoadModule php5_module "C:/Program Files/php/php5apache2_2.dll"
AddType application/x-httpd-php .php
# Add this line inside the <IfModule mod_mime.c> conditional brace
AddType application/x-httpd-php .php
AddHandler application/x-httpd-php .php
#configure the path to php.ini
PHPIniDir "C:/program files/php"
```

## IMPORTANT !!!

You must modify your Apache configuration file to load the PHP5 module at server startup. To do this add these lines to your Apache `httpd.conf` file. Technically, they should go in different sections of this file, but it will work fine as a block, so put them just after the line you added to set the port.



# A PHP Test Example



```
File Edit Format View Help
<html>
<head>
<title>Hello From PHP</title>
</head>
<body style = "font-family: arial, sans-serif;
background-color: #856363" background=image1.jpg>
<h1> Hello From PHP</h1>

<?php
print "Current Information";
phpInfo();
?>

</body>
</html>
```

This is PHP

Create this file named `hello.php` and save it to the `htdocs` folder in the Apache server directory.

Then start your browser and enter the URL:  
<http://localhost:8081/hello.php>  
and you should see output similar to that shown on the next slide.





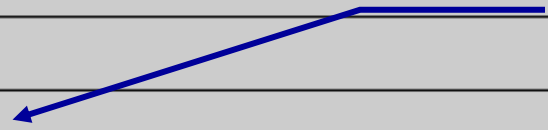
# Hello From PHP

## Current Information

**PHP Version 5.3.5** 

System	Windows NT WIN-4EVID7P6TAF 6.0 build 6002 (Windows Server 2008 Standard Edition Service Pack 2) i586
Build Date	Jan 6 2011 17:50:45
Compiler	MSVC6 (Visual C++ 6.0)
Architecture	x86
Configure Command	cmd /c "cd /d %PHP_SRC%\build\vc6 & phpize & ./configure --enable-snapshot-build --disable-isapi --enable-debug-pack --disable-isapi --without-mssql --without-pdo-mssql --without-pi3web --with-pdo-oci=D:\php-sdk\oracle\instantclient10\sdk,shared --with-oci8=D:\php-sdk\oracle\instantclient10\sdk,shared --with-oci8-11g=D:\php-sdk\oracle\instantclient11\sdk,shared --enable-object-out-dir=../obj/ --enable-com-dotnet --with-mcrypt=static"
Server API	Apache 2.0 Handler
Virtual Directory Support	enabled
Configuration File (php.ini) Path	C:\Windows
Loaded Configuration File	C:\xampp\php\php.ini
Scan this dir for additional .ini	(none)

The default directory for the php.ini file.



# A Second PHP Example

- The following two pages illustrate another simple PHP “hello world” program.
- In PHP, code is inserted between the scripting delimiters `<?php` and `?>`. PHP code can be placed anywhere in XHTML markup, as long as the code is enclosed in these scripting delimiters.
- Place all of your XHTML and PHP files inside the `htdocs` directory of the Apache server directory.



# welcome.php Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"  
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

```
<!-- welcome.php -->
```

```
<!-- XHTML file containing a PHP script. -->
```

```
<?php
```

```
  $name = "Mark";    //php declaration and assignment
```

```
?>
```

PHP code  
declaring a  
variable.

```
<html xmlns = "http://www.w3.org/1999/xhtml">
```

```
<!-- head section of document -->
```

```
<head>
```

```
  <title>A Simple PHP Document</title>
```

```
</head>
```

```
<!-- body section of document -->
```

```
<body style = "font-size: 2em">
```

```
  <hr>
```

```
  <font color = blue><h1> Generating HTML From PHP </h1></font color>
```

```
  <p>
```



# welcome.php Example

```
<strong>
  <!--print variable name's value in the message-->
  {
  <?php
    print("This is your second crack at running a PHP script...");
    print("<HR>");
    print("Welcome to the world of PHP technology, ");
  ?>
  <font color = green>
  {
  <?php
    print("$name");
  ?>
  </font color>
  }
  </strong>
</p>
</body>
</html> <!-- end XHTML document -->
```

PHP code

PHP code



# welcome.php Example Output



# Viewing Client/Server Environment Variables

- Knowledge of a client's execution environment is useful to system administrators who want to provide client-specific information.
- Environment variables contain information about a script's environment, such as the client's web browser, the HTTP host and the HTTP connection.
  - The table on the next page summarizes some of the superglobal arrays defined by PHP.
- The XHTML document on page 39 displays the values of the server's environment variables in a table. PHP stores the server variables and their values in the `$_SERVER` array. Iterating through the array allows one to view all of the server's environment variables.



# Some Superglobal Environment Arrays

Variable Name	Description
<code>\$_SERVER</code>	Data about the currently running server.
<code>\$_ENV</code>	Data about the client's environment.
<code>\$_GET</code>	Data posted to the server by the <code>get</code> method.
<code>\$_POST</code>	Data posted to the server by the <code>post</code> method.
<code>\$_COOKIE</code>	Data contained in cookies on the client's computer.
<code>\$GLOBALS</code>	Array containing all global variables.



# server.php Example

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<!-- server.php -->
<!-- Program to display $_SERVER variables -->
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head>
    <title>SERVER Variables Display</title>
  </head>

  <body style = "font-family: arial, sans-serif;
    background-color: #856363" background=image1.jpg>

    <table border = "0" cellpadding = "2" cellspacing = "0"
      width = "100%">
      <?php
        // print the key and value for each element
        // in the $_SERVER array
        foreach ( $_SERVER as $key => $value )
          print( "<tr><td bgcolor = '#11bbff'">
            <strong>$key</strong></td> <td>$value</td></tr>" );
      ?>
    </table>
  </body>
</html>
```

Iterate through the  
\$\_SERVER array to list all  
of the SERVER variables for  
the current server on which  
PHP is running.





SERVER Variables Display - Opera

Menu SERVER Variables Display

localhost/CNT%204714/server.php

Output from executing server.php

<b>HTTP_USER_AGENT</b>	Opera/9.80 (Windows NT 6.0; U; en) Presto/2.7.62 Version/11.01
<b>HTTP_HOST</b>	localhost
<b>HTTP_ACCEPT</b>	text/html, application/xml;q=0.9, application/xhtml+xml, image/png, image/jpeg, image/gif, image/x-bitmap, */*;q=0.1
<b>HTTP_ACCEPT_LANGUAGE</b>	en-US,en;q=0.9
<b>HTTP_ACCEPT_CHARSET</b>	iso-8859-1, utf-8, utf-16, */*;q=0.1
<b>HTTP_ACCEPT_ENCODING</b>	deflate, gzip, x-gzip, identity, */*;q=0
<b>HTTP_CONNECTION</b>	Keep-Alive, TE
<b>HTTP_TE</b>	deflate, gzip, chunked, identity, trailers
<b>PATH</b>	C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\
<b>SystemRoot</b>	C:\Windows
<b>COMSPEC</b>	C:\Windows\system32\cmd.exe
<b>PATHEXT</b>	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
<b>WINDIR</b>	C:\Windows
<b>SERVER_SIGNATURE</b>	Apache/2.2.17 (Win32) mod_ssl/2.2.17 OpenSSL/0.9.8o PHP/5.3.4 mod_perl/2.0.4 Perl/v5.10.1 Server at localhost Port 80
<b>SERVER_SOFTWARE</b>	Apache/2.2.17 (Win32) mod_ssl/2.2.17 OpenSSL/0.9.8o PHP/5.3.4 mod_perl/2.0.4 Perl/v5.10.1
<b>SERVER_NAME</b>	localhost
<b>SERVER_ADDR</b>	127.0.0.1
<b>SERVER_PORT</b>	80

View (90%)

